cc

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/974,834	10/12/2001	Yoshikazu Nagamura	50090-446	8266

7590 10/10/2003

McDermott, Will & Emery
600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER	
SUN, XIUQIN	

ART UNIT	PAPER NUMBER
2863	

DATE MAILED: 10/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/974,834	Applicant(s) NAGAMURA, YOSHIKAZU	
	Examiner Xiuqin Sun	Art Unit 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 September 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 April 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. Based on the newly found prior art the finality of the office action of 07/08/2003 is hereby withdrawn and replaced by the following office action.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheong et al. (U.S. Pat. No. 6223098) in view of Yoon et al. (U.S. Pat. No. 6589801).

Cheong et al. teach a control system for semiconductor integrated circuit (IC) quality assurance (QA) test process (Figs. 1, 3; col. 2, lines 2-18, 33-43; col. 5, lines 13-30; col. 12, lines 48-63 and col. 13, lines 6-10), comprising: a data processor suite having an inspection item data hold section (Figs. 4-6; col. 2, lines 19-32, lines 37-40, lines 44-62 ; col. 4, lines 41-45; col. 5, lines 39-67 and col. 6, lines 1-57) and a data processing section (col. 2, lines 33-50); the inspection item data hold section holding inspection item graded data which have been graded by determination of reliability of a per- inspection- item for a substance to be inspected (Figs. 4-6; col. 2, lines 19-32; col.

4, lines 41-45; col. 5, lines 39-67; col. 6, lines 1-57 and col. 12, lines 48-63); said inspection item graded data are produced as a result of a determination being made by means of taking, as references, an inspection apparatus and an inspection method corresponding to the inspection item (Figs. 4-6; col. 2, lines 19-32; col. 4, lines 41-45; col. 5, lines 39-67; col. 6, lines 1-57 and col. 12, lines 48-63); and the data processing section determining general graded data pertaining to the degree of QA of the substance in accordance with an algorithm employed in the data processing section after having received the inspection item graded data from the inspection item data hold section (Figs. 3,7-8, 11; col. 2, lines 33-50; col. 3, lines 51-58; col. 4, lines 55-64; col. 5, lines 39-67; col. 6, lines 58-67; col. 7, lines 1-48 and col. 10, lines 37-67); a display device for displaying the general graded data transported from the data processing section (col. 5, lines 12-19 and col. 12, lines 1-7); an inspection data hold section for holding inspection data pertaining to the substance for each of the inspection items (Figs. 4-6; col. 2, lines 19-32; col. 4, lines 41-45; col. 5, lines 39-67; col. 6, lines 1-57 and col. 12, lines 48-63), and the general graded data are determined in the data processing section on the basis of both the inspection item graded data and the inspection data transported from the inspection data hold section (Figs. 3,7-8, 11; col. 2, lines 33-50; col. 3, lines 51-58; col. 4, lines 55-64; col. 5, lines 39-67; col. 6, lines 58-67; col. 7, lines 1-48 and col. 10, lines 37-67).

Cheong et al. do not mention explicitly that: said display device for displaying, for an individual semiconductor device that has been inspected, the general graded data

transported from the data processing section, thereby indicating the degree of quality assurance of the inspected individual semiconductor device.

Yoon et al. teach the step and means of, for an individual IC chip that has been inspected, displaying the general graded data transported from the data processing section, thereby indicating the degree of quality assurance of the inspected individual IC chip (col. 5, lines 65-67; col. 6, lines 1-29, lines 37-54 and lines 64-67; and col. 7, lines 1-40).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Yoon et al. in the Cheong system in order to provide general graded data for evaluating a semiconductor device from the standpoint of production yield and quality assurance in a semiconductor production process (Yoon et al., Abstract; col. 6, lines 64-67 and col. 7, lines 1-40).

4. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheong et al. (U.S. Pat. No. 6223098) in view of Yoon et al. as applied to claims 1-3 above, and further in view of Moore (U.S. Pat. No. 6456729) and Brunner et al. (U.S. Pat. No. 6048651).

Cheong et al. teach the QA control system that includes the subject matter discussed above. Cheong et al. do not mention explicitly: said display device is a printer which prints the general graded data directly onto the substance; the substance to be inspected corresponds to a photomask, or photomask indirect material; the substance to be inspected is a photomask, and the display device is constructed so as to provide

the general graded data on an area within a pattern region on the photomask in which no pattern is to be formed.

Moore discloses a system and method of marking goods for authentication and tracking purposes, and teaches printing the general graded QA data directly onto a substance (col. 4, lines 33-46; col. 5, lines 23-67; col. 6, lines 1-6 and lines 60-67; col. 7, lines 1-41 and col. 18, lines 24-41).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include Moore printing technique in the Cheong system in order to print and display the QA results directly onto the substance under inspection so that the QA results can be easily tracked and accessed for each individual semiconductor integrated circuit unit (Moore, col. 4, lines 33-46).

Brunner et al. disclose the substance to be inspected is a photomask, and the display device is constructed so as to provide the general graded data on an area within a pattern region on the photomask in which no pattern is to be formed (col. 2, lines 19-27; col. 3, lines 7-19, lines 44-53 and col. 4, lines 60-67).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teachings of Brunner test photomask in the Cheong system in order to use a test photomask for semiconductor QA process (Brunner, col. 5, lines 27-36), and print and display the QA output on an area within a pattern region on the photomask (Brunner, col. 2, lines 19-27).

Response to Arguments

5. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

Claims 1-6 are rejected as new art (Yoon et al., U.S. Pat. No. 6589801) has been found to teach the limitation of displaying, for an individual semiconductor device that has been inspected, the general graded data transported from the data processing section, thereby indicating the degree of quality assurance of the inspected individual semiconductor device. For detailed response, please refer to section 3-4 set forth above in this office action.

Contact Information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiuqin Sun whose telephone number is (703)305-3467. The examiner can normally be reached on 7:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (703)308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9306.

XS
XS
September 29, 2003

John Barlow
Supervisory Patent Examiner
Technology Center 2800